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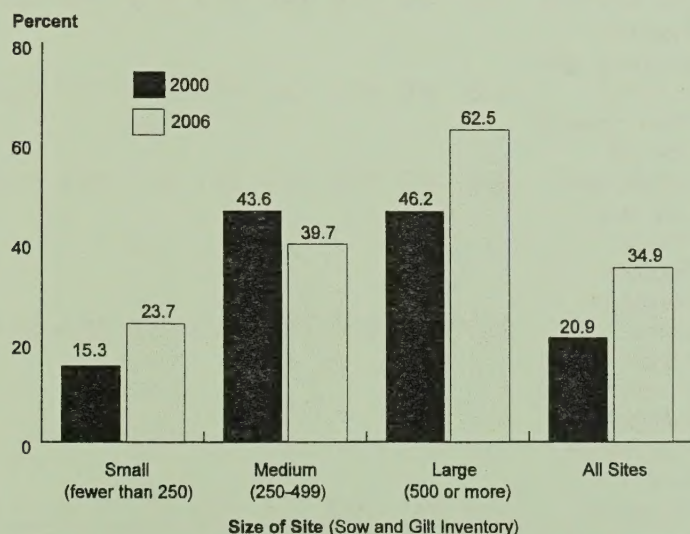
Vaccination Against *Mycoplasma* Pneumonia, Swine Influenza, and PRRS in Breeding Females, 2000 and 2006

In 2000 and 2006, the USDA's National Animal Health Monitoring System (NAHMS) conducted studies on swine health and management practices from a random sample of swine production sites with 100 or more pigs in 17 States*. These States represented approximately 94 percent of U.S. pig inventory and 94 percent of U.S. pork producers with 100 or more pigs.

Vaccination against *Mycoplasma* pneumonia

Overall, about one in five sites (20.9 percent) and one in three sites (34.9 percent) vaccinated breeding females against *Mycoplasma* pneumonia in 2000 and 2006, respectively (figure 1). In general, a higher percentage of large sites usually vaccinated breeding females against *Mycoplasma* than small sites in both 2000 and 2006.

Figure 1. Percentage of Sites that Usually Vaccinated Breeding Females Against *Mycoplasma* Pneumonia



*States

Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, and Wisconsin.

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In both 2000 and 2006, most sites vaccinated gilts prior to entering the breeding herd, and about half vaccinated gilts at time of entering the breeding herd. The reproductive time period that sites vaccinated breeding females against *Mycoplasma* pneumonia was similar in 2000 and 2006 (table 1).

Table 1. For Sites that Vaccinated Breeding Females Against *Mycoplasma* Pneumonia, Percentage of Sites that Usually Vaccinated During the Following Time Periods

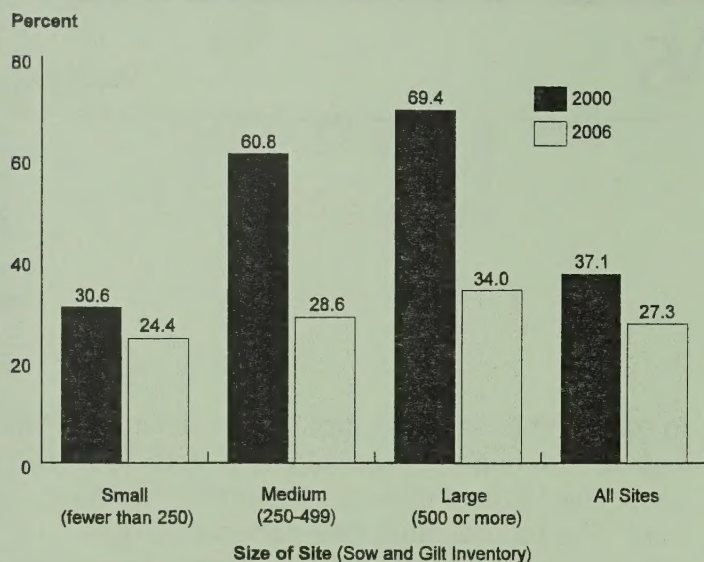
Time Period	2000	2006
Prior to entering the breeding herd	75.0	84.4
As gilts at time of entering the breeding herd	44.2	57.3
During gestation up to 4 weeks before farrowing	24.0	10.7
During the last 4 weeks of gestation	22.3	21.5
From farrowing to weaning	4.8	3.9
After weaning through breeding/mating	5.7	11.8
At regular intervals, regardless of reproductive stage*	7.5	5.3

*Once or twice a year in 2000.

Vaccination against porcine reproductive and respiratory syndrome (PRRS)

The use of PRRS vaccine in breeding females on medium and large sites dropped by approximately one-half from 2000 to 2006. However, overall the use of PRRS vaccination did not change substantially (figure 2).

Figure 2. Percentage of Sites that Usually Vaccinated Breeding Females Against PRRS, By Size of Site



The timing of when PRRS vaccine is given to breeding females changed from 2000 to 2006 in three areas: 1) the percentage of sites that vaccinated breeding females against PRRS during the last 4 weeks of gestation decreased from 17.5 percent in 2000 to 3.5 percent in 2006; 2) the percentage that vaccinated from farrowing to weaning decreased from 43.0 percent in 2000 to 6.8 percent in 2006; and 3) the percentage that vaccinated at regular intervals increased from 9.1 percent in 2000 to 47.0 percent in 2006 (table 2).

Table 2. For Sites that Vaccinated Breeding Females Against PRRS, Percentage of Sites that Usually Vaccinated During the Following Reproductive Time Periods

Time Period	2000	2006
Prior to entering the breeding herd	27.0	38.1
As gilts at time of entering the breeding herd	80.8	69.2
During gestation up to 4 weeks before farrowing	13.3	10.9
During the last 4 weeks of gestation	17.5	3.5
From farrowing to weaning	43.0	6.8
After weaning through breeding/mating	23.4	28.2
At regular intervals, regardless of reproductive stage*	9.1	47.0

*Once or twice a year in 2000.

Since vaccinating for PRRS on medium and large breeding sites decreased from 2000 to 2006, it follows that other measures to control PRRS would have changed on these sites as well.

For example, the percentage of medium sites that exposed incoming gilts to PRRS decreased from 45.6 percent in 2000 to 13.2 percent in 2006, while the percentage of large sites that did so decreased from 57.1 percent in 2000 to 20.9 percent in 2006. The percentage of large sites that obtained replacement gilts from a PRRS-negative source increased from 46.7 percent in 2000 to 71.7 percent in 2006, and the percentage of large sites that tested replacement gilts for PRRS increased from 32.2 percent in 2000 to 57.9 percent in 2006. Additionally, a higher percentage of large sites used only PRRS-negative semen/boars in 2006 than in 2000 (table 3).

Table 3. Percentage of Sites by Measures Specifically Used to Control or Prevent PRRS in Breeding Females, and by Size of Site

Control Measure	Percent Sites							
	Size of Site (Sow and Gilt Inventory)							
	Small (Fewer than 250)		Medium (250-499)		Large (500 or More)		All Sites	
	2000	2006	2000	2006	2000	2006	2000	2006
Obtain replacement gilts from PRRS-negative source	18.4	19.0	48.2	27.8	46.7	71.7	23.9	33.0
Test replacement gilts for PRRS	4.5	4.0	24.6	15.0	32.2	57.9	9.0	18.5
Expose incoming gilts to PRRS	8.8	5.6	45.6	13.2	57.1	20.9	16.7	10.2
Herd closed to new gilt introduction	26.2	48.2	16.6	35.8	28.1	38.1	25.4	44.5
Use only PRRS-negative semen or boars	28.2	50.5	53.2	63.7	56.9	81.0	33.3	59.4
Other measures not including vaccination	0.8	11.0	1.0	14.2	5.1	12.5	1.2	11.7
Any of the above	50.4	69.1	86.2	73.9	89.9	92.2	57.4	75.3

Vaccination against swine influenza

Sites often vaccinated their breeding herd against one or both of the current serotypes of swine influenza (H1N1 and H3N2) [table 4].

Table 4. Percentage of Sites that Usually Vaccinated Breeding Females Against Swine Influenza H1N1 and/or H3N2, by Size of Site

Vaccinated Against...	Percent Sites							
	Size of Site (Sow and Gilt Inventory)							
	Small (Fewer than 250)	Medium (250-499)	Large (500 or More)	All Sites				
	2000	2006	2000	2006	2000	2006	2000	2006
Swine influenza H1N1	4.4	11.5	39.4	33.2	42.4	69.3	11.2	27.9
Swine influenza H3N2	5.0	12.8	29.4	33.6	41.5	65.2	10.6	27.8
Both H1N1 and H3N2	2.9	11.5	28.5	29.7	28.1	64.5	7.6	26.4
Either H1N1 or H3N2	6.5	12.8	40.2	37.1	55.8	70.0	14.2	29.3

Table 5 shows the most common timing for vaccinating breeding females against swine influenza H1N1 and H3N2. The percentage of sites that vaccinated breeding females against H1N1 prior to entering the breeding herd increased from 42.6 percent in 2000 to 64.7 percent in 2006. Similarly, the percentage of sites that vaccinated breeding females against influenza H3N2 increased from 32.8 percent in 2000 to 63.0 percent in 2006.

Table 5. For Sites that Vaccinated Breeding Females Against Swine Influenza H1N1 and H3N2, Percentage of Sites that Usually Vaccinated During the Following Time Periods

Time Period	Percent Sites			
	H1N1		H3N2	
	2000	2006	2000	2006
Prior to entering the breeding herd	42.6	64.7	32.8	63.0
As gilts at time of entering the breeding herd	71.2	67.9	74.9	68.8
During gestation up to 4 weeks before farrowing	21.6	27.4	24.4	33.0
During the last 4 weeks of gestation	35.4	25.0	36.8	25.9
From farrowing to weaning	14.8	3.5	22.8	4.3
After weaning through breeding/ mating	11.7	8.7	1.8	8.7
At regular intervals, regardless of reproductive stage*	13.6	21.6	11.1	21.7

*Once or twice a year in 2000.

Complete descriptive reports and other information sheets from NAHMS Swine Studies are available at: <http://nahms.aphis.usda.gov>

For more information, contact:

USDA:APHIS:VS:CEAH,
 NRRC Building B, M.S. 2E7
 2150 Centre Avenue
 Fort Collins, CO 80526-8117
 970.494.7000
 E-mail: NAHMS@aphis.usda.gov
<http://nahms.aphis.usda.gov>

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